



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HSE-5J

EXPRESS MAIL

NOV 18 1994

George B. Rice
Senior Vice President
Kerr-McGee Chemical Corporation
123 Robert S. Kerr Avenue
Oklahoma City, OK 73102

Re: Kerr-McGee Residential Areas Removal Site
DuPage County, Illinois

Dear Mr. Rice:

Enclosed please find a unilateral Administrative Order issued by the U.S. Environmental Protection Agency ("EPA") under Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), 42 U.S.C. §§ 9601 to 9675.

Please note that the Order allows an opportunity for a conference if requested within 5 days after issuance of the Order, or if no conference is requested, an opportunity to submit comments within 12 days of issuance of the Order.

If you have any questions regarding the Order, feel free to contact Marc M. Radell, Associate Regional Counsel, at (312) 886-7948 or Rebecca L. Frey, Remedial Project Manager/On-Scene Coordinator, at (312) 886-4760. I understand that your attorney has already arranged a conference with EPA on Wednesday, November 30 at 9:00 a.m. in Room 811, 77 W. Jackson Blvd., Chicago, Illinois.

Sincerely yours,

William E. Muno, Director
Waste Management Division

Enclosure

cc: Gary King, IEPA (w/attch)
Gordon Appel, IDNS "
Richard Meserve "

bcc: Docket Analyst, ORC (CS-3T)
M. Radell, ORC (CM-29A)
R. Frey, (HSRL-6J)
S. Schneider, DOJ
L. Holloway, OECA
D. Ergener, OECA
Jose Cisneros, ESS (HSE-5J)
Oliver Warnsley, CRS (HSM-5J)
Toni Lesser, Public Affairs (P-19J) w/out attachments
Don Henne, Department of Interior
Tony Audia (MF-10J)

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Docket No.

V-W- '95-C-272

Respondent

UNILATERAL ADMINISTRATIVE ORDER FOR REMOVAL ACTIONS

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I. INTRODUCTION AND JURISDICTION

1. This Order directs Respondent to perform the removal actions described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site. This Order is issued to Respondent by the United States Environmental Protection Agency ("U.S. EPA") under the authority vested in the President of the United States by § 106(a) of CERCLA. This authority was delegated to the Administrator of U.S. EPA on January 23, 1987, by Executive Order 12580 (52 Fed. Reg. 2,926), and was further delegated to the Regional Administrator on September 13, 1987 by U.S. EPA Delegation No. 14-14-A and 14-14-B, and to the Director, Waste Management Division, Region V, by Regional Delegation Nos. 14-14-A and 14-14-B.

II. PARTIES BOUND

2. This Order shall apply to and be binding upon Respondent and its successors and assigns. Respondent is responsible for carrying out all actions required by this Order. No change in the ownership, corporate status, or other control of Respondent shall alter any of Respondent's responsibilities under this Order.

3. Respondent shall provide a copy of this Order to any prospective owners or successors before a controlling interest in Respondent's assets, property rights, or stock are transferred to the prospective owner or successor. Respondent shall provide a copy of this Order to each contractor, subcontractor, laboratory, or consultant retained to perform any Work under this Order, within five days after the effective date of this Order or on the date such services are retained, whichever is later. Respondent shall also provide a copy of this Order to any person acting on behalf of Respondent with respect to the Site or the Work and shall ensure that all contracts and subcontracts entered into hereunder require performance under the contract to be in conformity with the terms and Work required by this Order. With regard to the actions undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to Respondent within the meaning of § 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents perform all Work in accordance with this Order.

4. Not later than thirty (30) days prior to any transfer of any interest of Respondent in any real property included within the Site, Respondent shall submit a true and correct copy of the transfer documents to U.S. EPA, and shall identify the

transferee(s) by name, principal business address and effective date of the transfer.

III. DEFINITIONS

5. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in the statute or its implementing regulations. Whenever terms listed below are used in this Order or in the documents attached to this Order or are incorporated by reference into this Order, the following definitions shall apply:

a. "Action Criteria Document" shall mean the November 1993 U.S. EPA document entitled "Action Criteria for Superfund Removal Actions at the Kerr-McGee Residential Areas Site, West Chicago, Illinois" which is attached hereto as Attachment 3. The Action Criteria Document is incorporated into this Order and is an enforceable part of this Order.

b. "Action Memorandum" shall mean the U.S. EPA Action Memorandum relating to the Site signed in November 1994 by the Remedial Project Manager/On-Scene Coordinator and the Regional Administrator, U.S. EPA, Region V, and all attachments thereto, which is attached as Attachment 2. The Action Memo is incorporated into this Order and is an enforceable part of this Order.

c. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 to 9675.

d. "City" shall mean the City of West Chicago, DuPage County, Illinois.

e. "Day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the end of the next working day.

f. "EE/CA" shall mean the August 1994 Engineering Evaluation and Cost Analysis conducted by U.S. EPA pursuant to Section 300.415(b)(4)(i) of the NCP.

g. "IEPA" shall mean the Illinois Environmental Protection Agency.

h. "IDNS" shall mean the Illinois Department of Nuclear Safety.

i. "Kress Creek NPL Site" shall mean the Kerr-McGee Kress Creek/West Branch of DuPage River Site placed on the NPL in February 1991.

j. "Lindsay Light" shall mean the Lindsay Light and Chemical Company.

k. "National Contingency Plan" or "NCP" shall mean the National Contingency Plan promulgated pursuant to § 105 of CERCLA, 42 U.S.C. § 9605, and codified at 40 C.F.R. Part 300, and any amendments thereto.

l. "NPL" means the "National Priorities List" as defined in Section 300.5 of the NCP.

m. "NRC" means the United States Nuclear Regulatory Commission.

n. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

o. "Performance Standards" shall mean those cleanup standards, standards of control, and other substantive requirements, criteria or limitations, identified in the Action Criteria Document, Action Memorandum and Statement of Work, that the Work required by this Order must attain and maintain.

p. "REF" shall mean the Kerr-McGee Rare Earths Facility, 258 Ann Street, West Chicago, Illinois.

q. "Residential Areas NPL Site" shall mean the Kerr-McGee Residential Areas Site placed on the NPL in August 1990.

r. "Residential Areas Removal Site" or "Site" shall mean all properties within the Residential Areas NPL Site and the Kress Creek NPL Site at which U.S. EPA determines that Respondent shall perform Work.

s. "Respondent" shall mean the Kerr-McGee Chemical Corporation.

t. "Response Costs" shall mean all costs, including direct costs, indirect costs, and interest incurred by the United States to perform or support response actions at the Site, including, but not limited to, contract and enforcement costs.

u. "RPM/OSC" shall mean U.S. EPA's Remedial Project Manager/On-Scene Coordinator.

v. "Section" shall mean a portion of this Order identified by a Roman numeral and includes one or more paragraphs.

w. "Section 106 Administrative Record" shall mean the Administrative Record which includes all documents considered or relied upon by U.S. EPA in preparation of this Order. The Section 106 Administrative Record Index is a listing of all documents included in the Section 106 Administrative Record, and is appended hereto as Appendix 1.

x. "State" shall mean the State of Illinois.

y. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the removal actions at the Site, which is attached hereto as Attachment 1. The Statement of Work is incorporated into this Order and is an enforceable part of this Order.

z. "Work" shall mean all actions Respondent is required to perform under this Order and all attachments hereto, including, but not limited to removal actions.

IV. FINDINGS OF FACT

Based on available information, including the Section 106 Administrative Record in this matter, U.S. EPA hereby finds that:

6. The REF was established in 1932 by Lindsay Light to extract thorium and rare earth compounds from ore, a process which

produced mill tailings classified as "11(e)(2) byproduct material" pursuant to 42 U.S.C. § 2014(e)(2). NRC records indicate that, during the 1930's and 1940's, Lindsay Light transported mill tailings from the REF for disposal at the areas now known as the Kerr-McGee Reed-Keppler Park and West Chicago Sewage Treatment Plant NPL Sites and that, in the process of such transport, mill tailings came to be located at the Site. Preliminary investigations by the U.S. EPA indicate that Lindsay Light also transported mill tailings in a company truck from the REF to the Site upon request for use as fill, posted a notice on a company bulletin board advertising the availability of mill tailings for general use as fill, and allowed people to remove mill tailings from the REF for use as fill at the Site.

7. The Lindsay Light and Chemical Company merged into the American Potash & Chemical Company in 1958; the American Potash & Chemical Company merged into Respondent in 1967.

8. The REF ceased operations in 1973 and is undergoing closure proceedings through the IDNS.

9. The REF mill tailings located at the Site contain radionuclides, which radioactively decay, emitting ionizing radiation such as alpha particles, beta particles and gamma radiation. Exposure to ionizing radiation, if at sufficiently high doses and dose rates, can cause carcinogenic, genetic and

teratogenic effects. The mill tailings also contain heavy metals, including lead, barium and chromium. Effects of chronic exposure to low levels of lead range from anemia to impairment of the nervous, hematopoietic and cardiovascular systems. The effects of exposure to barium can include paralysis, cardiovascular abnormalities and gastroenteritis. Chronic ingestion of hexavalent chromium can cause kidney damage, while chronic inhalation can cause lung cancer.

10. The Site is not secured to protect the general public or individual residents from contact with hazardous substances.

11. Based on results of investigations done on behalf of the NRC and the U.S. EPA, and taking into account such factors as populations at risk, the potential of hazardous substances being present, the potential for contamination of drinking water supplies and the destruction of sensitive ecosystems, the Residential Areas NPL Site was placed on the NPL in August 1990.

12. During 1984 and 1985, Kerr-McGee and the City conducted cleanup actions at 116 contaminated properties within the City that had been identified as contaminated by Kerr-McGee, based on a gamma exposure rate criterion of 30 μ R/hr at 1 meter from the ground surface. Several properties within the City were not cleaned up, either through failure to obtain access from the property owner or technical impracticabilities in removing

contaminated material. In addition, although a number of properties outside the City exceeded the 30 μ R/hr criterion, only one of them was cleaned up, because the City declined to allow the contaminated materials to be brought into the City. U.S. EPA staff was sometimes present at these cleanups, but the cleanups were never formally approved by U.S. EPA or carried out pursuant to any U.S. EPA program.

13. In November 1993, U.S. EPA established criteria for the identification and cleanup of radionuclides at the Site. The U.S. EPA criteria are more stringent than the 30 μ R/hr criterion used in the 1984 and 1985 cleanups and are contained in the Action Criteria Document. The U.S. EPA believes that the presence of any lead, barium and chromium at the Site is due to the presence of the mill tailings and that excavation of the mill tailings to the cleanup standards for radionuclides contained in the Action Criteria Document will adequately mitigate any risk presented by these metals. U.S. EPA is conducting a pilot study to determine if metals are present at levels of concern. If, after completion of the pilot study, U.S. EPA determines that response action beyond that required under the current terms of this Order is necessary to mitigate any risk presented by the metals, U.S. EPA will follow the procedures in Section IX (Additional Work).

14. Since U.S. EPA will have had a planning period of at least six months before on-Site actions are initiated, the removal actions at the Site are considered "non-time-critical" and, therefore, U.S. EPA conducted the EE/CA, as required by Section 300.415(b)(4)(i) of the NCP.

15. In January 1994, EPA began fieldwork to identify areas that exceed the Discovery and Characterization Criteria set forth in the Action Criteria Document.

16. On April 14, 1994, U.S. EPA sent Respondent a general notice of potential liability, which notified Respondent that Respondent is considered a potentially responsible party under Section 107(a) of CERCLA and encouraged Respondent to agree to reimburse U.S. EPA for costs incurred by U.S. EPA at the Site and to voluntarily perform removal actions at the Site. In reply to the notice, Respondent indicated that it would be willing to enter negotiations with U.S. EPA regarding an administrative order on consent for such response actions. Respondent and U.S. EPA pursued negotiations through October 1994. On October 31, 1994, Respondent notified U.S. EPA that it could not accept the terms of the administrative order on consent offered by U.S. EPA, and, therefore, U.S. EPA deemed negotiations to have failed.

17. In November 1994 U.S. EPA issued the Action Memorandum for the Site, pursuant to OSWER Directive 9360.3-01, selecting the removal actions described in Paragraph 25.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Section 106 Administrative Record, U.S. EPA has determined that:

18. The Site is a "facility" as defined by Section 101(9) of CERCLA.

19. Radionuclides, lead, chromium and barium are "hazardous substances" as defined by Section 101(14) of CERCLA.

20. Respondent is a "person" as defined by Section 101(21) of CERCLA.

21. Respondent is a person who may be liable under Section 107(a) of CERCLA and, therefore, subject to an administrative order under Section 106(a) of CERCLA.

22. The conditions described in the Findings of Fact above and the Action Memorandum constitute an actual or threatened "release" of a hazardous substance from the facility into the "environment" as defined by Sections 101(8) and (22) of CERCLA.

23. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the NCP. These factors include, but are not limited to, the following:

a. actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants; this factor is present at the Site due to the existence of mill tailings in the soils of residential and non-residential properties, including areas which are or may be used for recreation or gardening.

b. high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate; this factor is present at the Site due to the existence of mill tailings in surface and near subsurface soils that may migrate due to wind, erosion, deliberate human movement, or migration of radon/thoron gas from soils into structures.

c. weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; this factor is present at the Site due to the existence of mill tailings in surface and near subsurface soils that may migrate due to wind or erosion.

24. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA.

25. Based on the conditions at the Site and the actual or threatened release of hazardous substances from the Site, U.S. EPA determined in the Action Memorandum that the following removal actions are necessary (more details on the selected removal actions are contained in the Action Memorandum):

- a. excavating contaminated materials from properties at the Site found to exceed the discovery and characterization criteria contained in the Action Criteria Document until levels at or below the verification criteria contained in the Action Criteria Document are reached, including following the "As Low As Reasonably Achievable" principle;
- b. providing additional measures for those limited and exceptional situations that may occur where complete excavation of contaminated soils cannot be accomplished and such measures are needed to reduce exposure and associated risks;

- c. minimizing the potential health hazards to workers performing the removal action and to nearby residents during the removal action;
- d. backfilling the excavations with clean soil and restoring properties to their original condition or to such other condition as may be arranged with the property owner;
- e. using appropriate environmental monitoring during and after removal to verify that cleanup levels are reached and short-term impacts are minimized; and
- f. after excavation, transporting all contaminated soils away from affected properties and shipping all contaminated materials removed from affected properties by rail to a licensed permanent disposal facility.

26. The removal actions selected in the Action Memorandum directly address actual or threatened releases of hazardous substances at the Site. Excavation and off-Site disposal of the hazardous substances permanently segregates the contaminated soils from the public and effectively reduces exposure to nearby populations. For certain limited situations where complete excavation of contaminated soils cannot be accomplished, providing additional measures as necessary also reduces exposure to nearby populations.

27. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment, and are not inconsistent with the NCP or CERCLA.

VI. NOTICE TO THE STATE

28. U.S. EPA has notified the IEPA and IDNS that U.S. EPA intends to issue this Order. As U.S. EPA deems appropriate, U.S. EPA will consult with the IEPA and IDNS, and the IEPA and IDNS will have the opportunity to review and comment to U.S. EPA regarding all Work to be performed, including reports, technical data and other deliverables, and any other issues which arise while the Order remains in effect. The IDNS has also been conducting some discovery and characterization activities at the Site for U.S. EPA and will conduct verification activities at the Site in the future, as described in the SOW.

VII. ORDER

29. Based on the foregoing, Respondent is hereby ordered to comply with all of the provisions of this Order, including but not limited to all attachments to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines contained in this Order, attached to this Order, or incorporated by reference into this Order.

VIII. WORK TO BE PERFORMED

30. Within five (5) days after receiving notification from U.S. EPA pursuant to Paragraph II.a. of the SOW that any parcel of property owned by Respondent requires excavation and restoration Work, Respondent shall record notice of and/or a copy of this Order in the appropriate governmental office where land ownership and transfer records are filed or recorded, and shall ensure that the recording of said notice and/or Order is indexed to the title of each and every parcel of property owned by Respondent at the Site, so as to provide notice to third parties of the issuance and terms of this Order with respect to those properties.

Respondent shall, within ten (10) days after such recording and indexing, send notice of such recording and indexing to U.S. EPA.

31. All work plans, reports, engineering design documents, and other deliverables (work plans and deliverables), as described throughout this Order, will be reviewed and either approved, approved with modifications, or disapproved by U.S. EPA. In the event of approval or approval with modifications by U.S. EPA, Respondent shall proceed to take any action required by the work plan, report, or other item, as approved or modified by U.S. EPA. If the work plan or other deliverable is approved with modifications or disapproved, U.S. EPA will provide, in writing, comments or modifications required for approval. Respondent shall amend the work plan or other deliverable to incorporate only those comments or modifications required by U.S. EPA.

Within fourteen (14) days of the date of U.S. EPA's written notification of approval with modifications or disapproval, Respondent shall submit an amended work plan or other deliverable, except that Respondent shall submit any amended monthly schedule required in Paragraph II.2. of the SOW within five (5) days of the date of such notification. U.S. EPA shall review the amended work plan or deliverable and either approve or disapprove it. Failure to submit a work plan, amended work plan or other deliverable within the specified time frame shall constitute noncompliance with this Order. Submission of an amended work plan or other deliverable which fails to incorporate all of U.S. EPA's required modifications, or which includes other unrequested modifications, shall also constitute noncompliance with this Order. Approval by U.S. EPA of the (amended) work plan or other deliverable shall cause said approved (amended) work plan or other deliverable to be incorporated herein as an enforceable part of this Order. If any (amended) work plan or other deliverable is not approved by U.S. EPA, Respondent shall be deemed to be in violation of this Order.

32. In the event of an inconsistency between this Order and any subsequent approved (amended) work plan or other deliverable, the terms of this Order shall control.

33. The Work performed by Respondent pursuant to this Order shall, at a minimum, achieve the performance standards specified

in the Action Criteria Document, the Action Memorandum and the Statement of Work. Nothing in this Order, or in U.S. EPA's approval of any (amended) work plan or other deliverable, shall be deemed to constitute a warranty or representation of any kind by U.S. EPA that full performance of the removal actions required by this Order will achieve the performance standards set forth in the Action Criteria Document, the Action Memorandum and the SOW. Respondent's compliance with such approved documents does not foreclose U.S. EPA from seeking additional Work.

34. All materials removed from the Site shall be disposed of at a facility approved in advance of removal by U.S. EPA's RPM/OSC and in accordance with: 1) § 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3); 2) the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6901 to 6992k, as amended; 3) the Procedures for Planning and Implementing Off-Site Response Actions, 58 Fed. Reg. 49,200 (September 22, 1993); and 4) all other applicable federal, State, and local requirements. Respondent shall provide written notice to the RPM/OSC which shall include all relevant information regarding the receiving facility, including the information required by Paragraph 35, before the hazardous substances are actually shipped off-Site.

35. Prior to any off-Site shipment of hazardous substances from the Site to an out-of-state waste management facility, Respondent shall provide written notification to the appropriate state

environmental official in the receiving state and to U.S. EPA's RPM/OSC of such shipment of hazardous substances. However, the notification of shipments to the state shall not apply to any off-Site shipments when the total volume of all shipments from the Site to the state will not exceed ten (10) cubic yards. The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondent shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

36. Respondent shall cooperate with U.S. EPA in providing to the public information regarding the Work. When requested by U.S. EPA, Respondent shall participate in the preparation of such information for distribution to the public and in public meetings which may be held or sponsored by U.S. EPA to explain activities at or relating to the Site.

37. Within 30 days of the effective date of this Order, Respondent shall submit to U.S. EPA a work plan for the Excavation and Restoration Phase of the non-time-critical removal

actions at the Site described in Paragraph II.b of the SOW ("Work Plan"). Respondent shall develop the Work Plan in conformance with the SOW, the Action Criteria Document, the Action Memorandum, CERCLA and the National Contingency Plan. The Work Plan shall be subject to review, modification, and approval or disapproval by the U.S. EPA, as provided in Paragraph 31.

38. Respondent shall implement the Work detailed in the Work Plan, according to the schedule contained therein, if and when the Work Plan is fully approved by U.S. EPA. Unless otherwise directed by the RPM/OSC, Respondent shall not commence field activities until approval, in writing, by U.S. EPA of the Work Plan. The final, U.S. EPA-approved Work Plan shall be attached to this Order and deemed incorporated into and made an enforceable part of it. All Work shall be conducted in accordance with the Action Criteria Document, Action Memorandum, SOW, National Contingency Plan, CERCLA and the requirements of this Order, including the standards, specifications and schedule contained in the approved Work Plan.

39. Within 60 days after completion of all on-Site Work required under this Order, Respondent shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP. The final report shall also include a good faith estimate of total costs incurred in

complying with the Order, a listing of quantities and types of materials removed off-Site or handled on-Site, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed by or on behalf of Respondent, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

40. The final report shall also include a statement that the on-Site Work has been completed in full satisfaction of the requirements of this Order as well as the following certification of completion signed by a responsible official of Respondent or Respondent's Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If U.S. EPA concludes, following the initial or any subsequent certification of completion by Respondent that the Work has been fully performed in accordance with this Order, U.S. EPA may notify Respondent that the Work has been fully performed. U.S. EPA's notification shall be based on present knowledge and Respondent's certification to U.S. EPA, and shall not limit U.S. EPA's right to perform periodic reviews pursuant to § 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action

that in the judgment of U.S. EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607.

IX. ADDITIONAL WORK.

41. In the event that U.S. EPA determines that additional Work or modifications to Work are necessary to meet performance standards, to maintain consistency with this Order or to otherwise protect human health or the environment, U.S. EPA will notify Respondent that additional Work is necessary. U.S. EPA may also require Respondent to modify any plan, design, or other deliverable required by this Order, including any approved modifications.

42. Within thirty (30) days of receipt of notice from U.S. EPA that additional Work is necessary, Respondent shall submit for approval an Additional Work Plan pursuant to Paragraph 31 herein. The Additional Work Plan shall conform to this Order's requirements for the Work Plan. Upon U.S. EPA's approval of the (amended) Additional Work Plan, the (amended) Additional Work Plan shall become an enforceable part of this Order, and Respondent shall implement the (amended) Additional Work Plan for additional Work in accordance with the standards, specifications, and schedule contained therein. Failure to submit an Additional Work Plan within the specified time frame shall constitute noncompliance with this Order.

X. ENDANGERMENT AND EMERGENCY RESPONSE

43. If any event during the performance of the Work causes or threatens to cause a release of a hazardous substance or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action to prevent, abate, or minimize the threat, and shall immediately notify U.S. EPA's RPM/OSC or alternate RPM/OSC. If neither of these persons is available, Respondent shall notify the U.S. EPA Emergency Response Unit, Region V at 312/353-2318. Respondent shall take further action in consultation with U.S. EPA's RPM/OSC and in accordance with all applicable provisions of this Order, including but not limited to the health and safety plan and the contingency plan. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and U.S. EPA takes that action instead, Respondent shall reimburse U.S. EPA upon written demand for all costs of the response action not inconsistent with the NCP.

44. Nothing in the preceding Paragraph or in any other provision of this Order shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XI. PROGRESS REPORTS

45. In addition to the other deliverables set forth in this Order, Respondent shall provide monthly progress reports to U.S. EPA with respect to actions and activities undertaken pursuant to this Order. The progress reports shall be submitted on or before the 15th day of each month following the effective date of this Order. Respondent's obligation to submit progress reports continues until U.S. EPA gives Respondent written notice under Paragraph 80 of this Order. At a minimum these progress reports shall: (1) describe the actions which have been taken to comply with this Order during the prior month; (2) include all results of sampling and tests and all other data received by Respondent and not previously submitted to U.S. EPA; (3) describe all Work planned for the next forty-five (45) days with schedules relating such Work to the overall project schedule for removal action completion; and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XII. QUALITY ASSURANCE, SAMPLING AND DATA ANALYSIS

46. Respondent shall use the quality assurance, quality control, and chain of custody procedures described in the "U.S. EPA NEIC Policies and Procedures Manual," May 1978, revised May 1986, U.S. EPA-330/9-78-001-R; U.S. EPA's "Guidelines and Specifications for Preparing Quality Assurance Program Documentation," June 1, 1987;

U.S. EPA's "Data Quality Objective Guidance," (U.S. EPA/540/G87/003 and 004), and any amendments to these documents, while conducting all sample collection and analysis activities related to air monitoring and sampling of backfill material. To provide quality assurance and maintain quality control, Respondent shall:

a. Prior to the commencement of any sampling and analysis related to air monitoring or sampling of backfill material, submit a Quality Assurance Project Plan (QAPP) to the U.S. EPA that is consistent with Task 2 of the SOW, (amended) work plans, U.S. EPA's "Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans" (QAM-005/80), the U.S. EPA Region V Model QAPP, and any subsequent amendments.

b. Prior to the development and submittal of the QAPP, attend a pre-QAPP meeting sponsored by U.S. EPA to identify all monitoring and data quality objectives. U.S. EPA, after review of the submitted QAPP, will either approve, conditionally approve, or disapprove the QAPP. Upon notification of conditional approval or disapproval, Respondent shall make all required modifications to the QAPP within fourteen (14) days of receipt of such notification.

c. Use only laboratories which have a documented Quality Assurance Program that complies with U.S. EPA guidance document QAMS-005/80 and subsequent amendments.

d. Ensure that the laboratory used by Respondent for analyses, performs according to a method or methods in the approved QAPP.

e. Ensure that U.S. EPA personnel and U.S. EPA's authorized representatives are allowed access to the laboratory and personnel utilized by Respondent for analyses.

47. Respondent shall notify U.S. EPA in advance of any sample collection activity related to air monitoring or sampling of backfill material. At the request of U.S. EPA, Respondent shall allow U.S. EPA or its authorized representatives to take split or duplicate samples of any samples collected by Respondent with regard to air monitoring or sampling of backfill material. In addition, U.S. EPA shall have the right to take any additional samples that U.S. EPA deems necessary.

XIII. COMPLIANCE WITH APPLICABLE LAWS

48. All actions by Respondent taken pursuant to this Order shall be performed in accordance with the requirements of all applicable federal and State laws and regulations. U.S. EPA has determined that the activities contemplated by this Order are not inconsistent with the National Contingency Plan.

49. Except as provided in § 121(e) of CERCLA and in the NCP, no permit shall be required for any portion of the Work conducted entirely on-Site. Where any portion of the Work, including off-

Site activities necessary for completion of the Work, requires a federal or State permit, Respondent shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.

50. This Order is not and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XIV. REMEDIAL PROJECT MANAGER/ON-SCENE COORDINATOR

51. All communications, whether written or oral, from Respondent to U.S. EPA shall be directed to U.S. EPA's RPM/OSC, unless the RPM/OSC directs Respondent otherwise. Except in emergency situations, communications from Respondent should not be directed to the Alternate RPM/OSC without prior direction from the RPM/OSC. Respondent shall submit to U.S. EPA as many copies of any documents, including plans, reports, and other correspondence, which are developed pursuant to this Order as the RPM/OSC requires, and shall send these documents by certified mail (return receipt requested) or by express mail.

U.S. EPA's Remedial Project Manager is:

Rebecca Frey
Illinois/Indiana Remedial Response Branch
U.S. EPA, Region 5
77 W. Jackson Blvd. (HSRL-6J)
Chicago, Illinois 60604-3590
312/886-4760

U.S. EPA's Alternate RPM/OSC is:

David Seely
Illinois/Indiana Remedial Response Branch
U.S. EPA, Region 5
77 W. Jackson Blvd. (HSRL-6J)
Chicago, Illinois 60604-3590
312/886-7058

52. U.S. EPA may change its RPM/OSC or Alternate RPM/OSC. If U.S. EPA changes its RPM/OSC or Alternate RPM/OSC, U.S. EPA will inform Respondent in writing of the name, address, and telephone number of the new RPM/OSC or Alternate RPM/OSC.

53. U.S. EPA's RPM/OSC and Alternate RPM/OSC shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the National Contingency Plan. U.S. EPA's RPM/OSC or Alternate RPM/OSC shall have authority, consistent with the NCP, to halt any Work required by this Order, and to take any necessary response action.

XV. PROJECT COORDINATOR AND CONTRACTORS

54. All aspects of the Work to be performed by Respondent pursuant to this Order shall be under the direction and supervision of a Project Coordinator qualified to undertake and complete the requirements of this Order. The Project Coordinator shall be the RPM/OSC's primary point of contact with Respondent and shall possess sufficient technical expertise regarding all aspects of the Work. Within five (5) working days after the effective date of this Order, Respondent shall notify U.S. EPA in

writing of the name and qualifications of the Project Coordinator, including primary support entities and staff, proposed to be used in carrying out the Work. U.S. EPA reserves the right to disapprove the proposed Project Coordinator.

55. Within fourteen (14) days after U.S. EPA approves the Work Plan, Respondent shall identify a proposed construction contractor and notify U.S. EPA in writing of the name, title, and qualifications of the construction contractor proposed to be used in carrying out the Work.

56. Respondent shall submit a copy of the construction contractor solicitation documents to U.S. EPA not later than five (5) days after publishing the solicitation documents. Upon U.S. EPA's request, Respondent shall submit complete copies of all bid packages received from all contract bidders.

57. At least seven (7) days prior to commencing any Work at the Site pursuant to this Order, Respondent shall submit to U.S. EPA a certification that Respondent or its contractors and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of Respondent pursuant to this Order. Respondent shall ensure that such insurance or indemnification is maintained for the duration of the Work required by this Order.

58. U.S. EPA retains the right to disapprove of the Project Coordinator and any contractor retained by Respondent. In the event U.S. EPA disapproves a Project Coordinator or contractor, Respondent shall retain a new project coordinator or contractor to perform the Work, and such selection shall be made within fifteen (15) days following the date of U.S. EPA's disapproval. If at any time Respondent proposes to use a new project coordinator or contractor, Respondent shall notify U.S. EPA of the identity of the new project coordinator or contractor at least fifteen (15) days before the new project coordinator or contractor performs any Work under this Order.

XVI. SITE ACCESS AND DOCUMENT AVAILABILITY

59. Prior to undertaking its own discovery and characterization activities, U.S. EPA intends to contact property owners in an attempt to obtain access for such activities (described in Paragraph II.a. of the SOW). For those properties owned or in possession of someone other than Respondent for which U.S. EPA has not already requested access to perform discovery and characterization activities, U.S. EPA intends to also request from the property owner permission for Respondent to perform any necessary excavation and restoration Work. If the owner does not grant access for excavation and restoration Work in response to U.S. EPA's letter and such Work is necessary at the property, U.S. EPA will notify Respondent in writing of the owner's denial. Within fourteen (14) calendar days of receipt of such

notification, Respondent shall contact the property owner and request access to perform the excavation and restoration Work. For properties where U.S. EPA has already requested access to perform discovery and characterization activities but did not request access to perform excavation and restoration Work, Respondent shall contact the property owners within fourteen (14) days of receipt of notification from U.S. EPA that the properties require excavation and restoration Work, and request access.

60. In all cases, Respondent shall use its best efforts to obtain a written agreement for access to the property, including providing reasonable compensation in consideration of access. Said agreements shall provide access for U.S. EPA, its contractors and oversight officials, the State and its contractors, and Respondent or Respondent's authorized representatives and contractors. Said agreements shall specify that Respondent is not U.S. EPA's representative with respect to liability associated with Site activities. Copies of such agreements shall be provided to U.S. EPA prior to Respondent's initiation of field activities at those properties. If access agreements are not obtained within the time referenced above, Respondent shall promptly notify U.S. EPA of its failure to obtain access.

61. If Respondent cannot obtain the necessary access agreements, U.S. EPA may exercise non-reviewable discretion to: (1) use its

legal authorities to obtain access for Respondent; (2) conduct response actions at the property in question; or (3) terminate this Order. If U.S. EPA conducts a response action and does not terminate the Order, Respondent shall perform all other removal actions required by this Order that do not require access to that property. Respondent shall integrate the results of any such tasks undertaken by U.S. EPA into its reports and deliverables. Respondent shall reimburse U.S. EPA upon written demand for all response costs (including attorney fees) incurred by the United States to obtain access for Respondent.

62. Respondent shall allow U.S. EPA and its authorized representatives and contractors to enter and freely move about all property at the Site and off-Site areas subject to or affected by the Work under this Order or where documents required to be prepared or maintained by this Order are located, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondent and its representatives or contractors pursuant to this Order; reviewing the progress of Respondent in carrying out the terms of this Order; conducting tests as U.S. EPA or its authorized representatives or contractors deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to U.S. EPA by Respondent. Respondent shall allow U.S. EPA and its authorized representatives to enter the Site, to inspect and copy

all records, files, photographs, documents, sampling and monitoring data, and other writings related to Work undertaken in carrying out this Order. Nothing herein shall limit U.S. EPA's right of entry or inspection authority under federal law, and U.S. EPA retains all of its information gathering and enforcement authorities and rights under CERCLA, RCRA, and any other applicable statutes and regulations. .

XVII. RECORD PRESERVATION

63. On or before the effective date of this Order, Respondent shall submit a written certification to U.S. EPA that it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability with regard to the Site since the time of its notification of potential liability by U.S. EPA. Respondent shall not dispose of any such documents without prior approval by U.S. EPA. Within ten (10) days of the effective date of this Order, Respondent shall make all such documents available to U.S. EPA and shall submit a log of any such documents claimed to be privileged for any reason. This privilege log shall list, for each document, the date, author, addressees (including courtesy copies or "cc"s and "bcc"s) and subject matter of the document.

64. Respondent shall provide to U.S. EPA upon request, copies of all documents and information within its or its contractors', subcontractors' or agents' possession or control relating to

activities at the Site or to the implementation of this Order, including but not limited to sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, traffic routing, correspondence, or other documents or information. Respondent shall also make available to U.S. EPA its employees, agents, or representatives for purposes of investigation, information gathering or testimony concerning the performance of the Work.

65. Until ten (10) years after U.S. EPA provides notice pursuant to Paragraph 80 of this Order, Respondent shall preserve, and shall instruct its contractors and agents to preserve, all documents, records, and information of whatever kind, nature or description relating to the performance of the Work. Upon the conclusion of this document retention period, Respondent shall notify the United States at least ninety (90) days prior to the destruction of any such records, documents or information, and, upon request of the United States, Respondent shall deliver all such documents, records and information to U.S. EPA.

66. Respondent may assert a claim of business confidentiality covering part or all of the information submitted to U.S. EPA pursuant to the terms of this Order under 40 C.F.R. § 2.203, provided such claim is not inconsistent with § 104(e)(7) of CERCLA or other provisions of law. This claim shall be asserted in the manner described by 40 C.F.R. § 2.203(b) and substantiated

by Respondent at the time the claim is made. Information determined to be confidential by U.S. EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to U.S. EPA, it may be made available to the public by U.S. EPA or the State without further notice to Respondent. Respondent shall not assert confidentiality claims with respect to any data or documents related to Site conditions, sampling, or monitoring. The identification of individual residential properties and their owners shall be kept confidential by Respondent and may be released by Respondent only to the U.S. EPA unless U.S. EPA otherwise agrees in writing. However, Respondent may make use of such data without the written agreement of U.S. EPA in connection with litigation related to the hazardous substances or to the REF, provided that the presiding court deems identification of individual residential properties and their owners necessary.

67. Respondent shall maintain, for the period during which this Order is in effect, an index of documents that Respondent claims contain confidential business information ("CBI"). The index shall contain, for each document, the date, author, addressee, and subject of the document. Respondent shall submit an updated copy of the index to U.S. EPA with each new document(s) claimed to be CBI. The updated index shall also indicate any documents for which CBI claims have been withdrawn.

XVIII. DELAY IN PERFORMANCE

68. Any delay in performance of this Order according to its terms and schedules that U.S. EPA deems is not properly justified by Respondent under the terms of this Section shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondent's obligations to fully perform all obligations under the terms and conditions of this Order.

69. Respondent shall notify U.S. EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to U.S. EPA's RPM/OSC or Alternate RPM/OSC within forty-eight (48) hours after Respondent first knew or should have known that a delay might occur. Respondent shall adopt all reasonable measures to avoid or minimize any such delay. Within seven (7) days after notifying U.S. EPA by telephone, Respondent shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Respondent should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

XIX. UNITED STATES NOT LIABLE

70. The United States and U.S. EPA are not to be construed as parties to, and do not assume any liability for, any contract entered into by Respondent to carry out the activities pursuant to this Order. The proper completion of the Work under this Order is solely the responsibility of Respondent. The United States and U.S. EPA, by issuance of this Order, also assume no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondent, or its directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity required by this Order.

XX. ENFORCEMENT AND RESERVATIONS

71. U.S. EPA reserves the right to bring an action against Respondent under § 107 of CERCLA for recovery of any response costs incurred by the United States related to this Order, the Site or any other site at which Respondent may be a liable person. This reservation shall include but not be limited to past costs, direct costs, indirect costs, the costs of oversight, the costs of compiling the cost documentation to support oversight cost demand, as well as accrued interest as provided in § 107(a) of CERCLA.

72. Notwithstanding any other provision of this Order, at any time during the removal actions, U.S. EPA may perform its own

studies, complete the removal actions (or any portion of the removal actions) as provided in CERCLA and the NCP, and seek reimbursement from Respondent for its costs, or seek any other appropriate relief.

73. Should Respondent violate this Order or any provision hereof, EPA may terminate this Order and carry out the required removal actions unilaterally, pursuant to Section 104 of CERCLA, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA.

74. Nothing in this Order shall preclude U.S. EPA from taking any additional enforcement actions, including modification of this Order or issuance of additional Orders, and/or additional remedial or removal actions as U.S. EPA may deem necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law. This Order shall not affect Respondent's liability under CERCLA § 107(a) for the costs of any such additional actions.

75. Notwithstanding any provision of this Order, the United States hereby retains all of its information gathering, inspection and enforcement authorities and rights under CERCLA, RCRA and any other applicable statutes or regulations.

76. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person for any liability it may have arising out of or relating in any way to the Site. .

77. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XXI. ACCESS TO ADMINISTRATIVE RECORD

78. The Section 106 Administrative Record is available for review on normal business days between the hours of 9:00 a.m. and 5:00 p.m. at the U.S. EPA, Region V, 77 West Jackson Boulevard Chicago, Illinois. An Index of the Administrative Record is attached hereto as Appendix 1.

XXII. EFFECTIVE DATE AND TERMINATION

79. This Order shall become effective twelve (12) days after the date of issuance.

80. After it receives Respondent's certification of completion under Paragraph 40, U.S. EPA may require such additional activities as may be necessary to complete the Work or U.S. EPA may, based upon such certification and U.S. EPA's concurrent

knowledge, issue written notification to Respondent that the Work has been completed, as appropriate. U.S. EPA's notification shall not limit U.S. EPA's right to take or require any action that in the judgment of U.S. EPA is appropriate at the Site, in accordance with Section 104, 106 or 107 of CERCLA. The provisions of this Order shall be deemed to be satisfied when U.S. EPA notifies Respondent in writing that Respondent has demonstrated, to U.S. EPA's satisfaction, that all terms of the Order have been completed. This notice shall not, however, terminate Respondent's obligation to comply with Section XVII (Record Preservation).

XXIII. NOTICE OF INTENT TO COMPLY

81. On or before the effective date of this Order, Respondent must submit to U.S. EPA a written notice stating its unequivocal intention to comply with all terms of this Order. In the event Respondent fails to provide said written notice of its unequivocal intention to comply with this Order on or before the effective date, Respondent shall be deemed to have refused to comply with this Order. If Respondent fails to provide timely notice of its intent to comply with this Order, it shall thereafter have no authority to perform any response action at the Site, pursuant to §§ 104(a) and 122(e)(6) of CERCLA. In the event Respondent subsequently changes its decision and desires to acquire authority from U.S. EPA under §§ 104(a) and 122(e)(6) of CERCLA to undertake the Work described in this Order, Respondent

must provide the notice described in this Paragraph to U.S. EPA and receive from U.S. EPA written permission and authority to proceed with Work under this Order.

XXIV. PENALTIES

82. Respondent shall be subject to civil penalties under § 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than \$25,000 for each day in which Respondent violates, or fails or refuses to comply with this Order without sufficient cause. In addition, failure to properly provide removal action under this Order, or any portion hereof, may result in liability under § 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), for punitive damages in an amount at least equal to, and not more than three times the amount of any costs incurred by the Fund as a result of such failure to take proper action.

XXV. OPPORTUNITY TO CONFER

83. On or before the effective date of this Order, Respondent may submit written comments to U.S. EPA. If Respondent asserts a "sufficient cause" defense under § 106(b) of CERCLA, Respondent shall describe the nature of any "sufficient cause" defense using facts that exist on or prior to the effective date of this Order. The absence of a response by U.S. EPA shall not be deemed to be acceptance of Respondent's assertions.

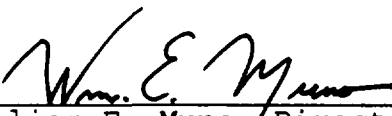
84. Within five (5) days after the date of issuance of this Order, Respondent may request a conference with the U.S. EPA to discuss this Order. If requested, the conference shall occur with 12 (twelve) days of the date of issuance of this Order, at the office of U.S. EPA, Region 5, in Chicago, Illinois.

85. The purpose and scope of the conference shall be limited to issues involving the implementation of the Work and the extent to which Respondent intends to comply with this Order. This conference is not an evidentiary hearing and does not constitute a proceeding to challenge this Order. It does not give Respondent a right to seek review of this Order or to seek resolution of potential liability. No record of the conference (e.g. stenographic, tape or other physical record) will be made. At any conference held pursuant to Respondent's request, Respondent may appear in person or by an attorney or other representative. Requests for a conference must be by telephone followed by written confirmation to U.S. EPA's RPM/OSC.

ADMINISTRATIVE ORDER FOR KERR-McGEE RESIDENTIAL AREAS REMOVAL
SITE

So Ordered, this 18th day of November, 1994.

BY:



William E. Muno, Director
Waste Management Division
U.S. Environmental Protection Agency, Region V

INDEX TO SECTION 106 ADMINISTRATIVE RECORD

1. Action Memorandum for Site, November 1994
2. Engineering Evaluation/Cost Analysis for Site, August 1994
3. Action Criteria Document for Site, November 1993

Attachment to Unilateral Administrative Order

**STATEMENT OF WORK FOR
NON-TIME-CRITICAL REMOVAL ACTIONS
AT THE
KERR-McGEE RESIDENTIAL AREAS REMOVAL SITE
WEST CHICAGO, ILLINOIS**

I. PURPOSE

The purpose of this Statement of Work ("SOW") is to set forth the requirements for implementation of non-time-critical removal actions at the Kerr-McGee Residential Areas Removal Site ("Site"). Respondent shall implement all Work described in this SOW in accordance with the Order to which this SOW is attached, the Action Criteria Document and the Action Memorandum. In the event of any inconsistency between this SOW and the Order, the Order shall govern.

II. DESCRIPTION OF THE NON-TIME-CRITICAL REMOVAL ACTIONS TO BE CONDUCTED BY RESPONDENT

The activities associated with the non-time-critical removal actions are being conducted in three concurrent phases. Respondent shall conduct one phase of the activities, as generally described in Paragraph II.b. below. U.S. EPA and/or IDNS will conduct other phases of the activities, as generally described in paragraphs II.a. and c. below.

- a. DISCOVERY AND CHARACTERIZATION PHASE:** During this phase, U.S. EPA will survey, sample and test properties in the West Chicago area to determine which properties exceed the Discovery and Characterization Criteria contained in the Action Criteria Document. Based on the results of those surveys, samples and tests, U.S. EPA will identify properties that exceed the Discovery and Characterization Criteria and, therefore, require Excavation and Restoration Phase Work. U.S. EPA will notify Respondent which properties U.S. EPA determines require Excavation and Restoration Phase Work. The notification U.S. EPA provides to Respondent may be in either hard copy or electronic format and will include appropriate information about the properties that U.S. EPA gathers during this phase. Within 30 days of the effective date of the Order, U.S. EPA will provide to Respondent an initial list of properties that U.S. EPA has determined require Excavation and Restoration Phase Work. Thereafter, U.S. EPA will provide such notification to Respondent on a routine basis as discovery/characterization activities continue.

- b. **EXCAVATION AND RESTORATION PHASE:** During this phase, Respondent shall remove contaminated materials from each property that U.S. EPA determines exceeds the Discovery and Characterization Criteria and notifies Respondent pursuant to Paragraph II.a. requires Excavation and Restoration Phase Work. As used in this SOW, "contaminated materials" means soils that exceed the Discovery and Characterization Criteria and any other materials (e.g., concrete or wood) that have become contaminated with hazardous substances as a result of the thorium mill tailings at the Site. Respondent shall excavate contaminated materials from each such property to levels that meet the Verification Criteria contained in the Action Criteria Document. Prior to backfilling any excavated area with clean soil, Respondent shall notify U.S. EPA that Respondent believes the Verification Criteria have been met at that area. U.S. EPA/IDNS then will conduct verification activities (described below) to confirm that Respondent has met the Verification Criteria. If U.S. EPA, in consultation with IDNS, determines that the Verification Criteria have not been met, Respondent shall conduct additional excavations as necessary to meet the Verification Criteria. If U.S. EPA, in consultation with IDNS, determines that the Verification Criteria have been met at any excavated area, U.S. EPA shall so notify Respondent, and Respondent shall backfill the excavation with clean soils and shall restore the property, to the extent practicable, to its original condition or such other condition as the property owner may have approved in writing.
- c. **VERIFICATION PHASE:** During this phase, U.S. EPA/IDNS will conduct sampling, surveying and testing activities to determine whether the Verification Criteria have been met at all properties undergoing the Excavation and Restoration Phase Work. U.S. EPA/IDNS will conduct this phase of the project at each such property: 1) after excavation Work but before backfilling and restoration Work, i.e., after Respondent notifies U.S. EPA that it believes it has met the Verification Criteria; and 2) after backfilling of the excavation. For the verification activities that occur in the open excavation, U.S. EPA will notify Respondent whether the Verification Criteria have been met so the excavation may be backfilled and the property restored.

A more detailed description of the Work to be conducted by Respondent during the Excavation and Restoration Phase is provided below:

1. Access Agreements

Respondent shall obtain access agreements to areas of the Site not under its control as provided in Section XVI of the Order (Site Access and Document Availability). In order to minimize disputes regarding future restoration of the property, prior to any excavation, Respondent shall document the existing physical conditions of the property by photographs or video recordings.

2. Excavation of Properties

As stated above in Paragraph II.a., U.S. EPA will provide to Respondent within 30 days of the effective date of the Order an initial list of properties that require Excavation and Restoration Phase Work, and shall thereafter provide such notification to Respondent on a routine basis as discovery/characterization activities continue. The initial list of properties (hereinafter known as the "Initial List") shall consist of properties that have not been the subject of cleanup activities by Respondent in the mid-1980s.

U.S. EPA recognizes that it is not possible to undertake any excavation or restoration activities during the winter months (December through March) and that weather conditions may affect excavation or restoration activities at other times of the year. In addition, U.S. EPA recognizes that discoveries during the conduct of excavations, the need to obtain applicable off-Site licenses, permits and authorizations or unanticipated difficulties in the conduct of excavations may affect the schedule for the Work. As a result, the time schedules for the conduct of excavation or restoration Work may be subject to adjustment by U.S. EPA to reflect weather, scheduling or other appropriate considerations. Respondent shall provide notice to U.S. EPA of the need for any such adjustment and U.S. EPA may, at its discretion, adjust the schedule if U.S. EPA determines that such adjustment is appropriate.

Within 21 days after U.S. EPA's approval of Respondent's Excavation and Restoration Phase Work Plan ("Work Plan") (described in Section III of this SOW and Paragraph 38 of the Order), Respondent shall begin excavation Work at some or all of the properties that U.S. EPA has notified Respondent require excavation and restoration Work and that are included in the Initial List. For additional properties subsequently identified by U.S. EPA as needing excavation and restoration Work, Respondent shall begin excavation Work at such properties in accordance with the monthly schedule (described below) as approved by U.S. EPA. All excavation Work shall be conducted to meet the Verification Criteria using such procedures and equipment as necessary and appropriate and as described in the

approved Work Plan. Respondent shall supply adequate staffing of excavation crews to ensure that Work at each affected property and at the Site as a whole is conducted without unnecessary delay, as determined by U.S. EPA.

On the 15th day of each month, as part of the monthly written progress report described in Section XI of the Order (Progress Reports), Respondent shall submit a monthly schedule containing a list of the properties scheduled to be excavated and the proposed level of staffing of work crews in the following 45 days. U.S. EPA will approve, approve with modifications or disapprove the schedule in accordance with Paragraph '32 of the Order and Respondent shall amend the schedule accordingly within 5 business days of receipt of the modifications. The approved schedule shall become an enforceable part of the Order.

As a general rule, Respondent shall provide in the monthly schedule for excavations at properties on a block-by-block or neighborhood-by-neighborhood basis (which is how U.S. EPA intends to conduct the Discovery and Characterization Phase) in order to minimize the number of times excavation crews must visit any one area of the Site. During its review of the monthly schedules, U.S. EPA may re-prioritize certain properties in accordance with U.S. EPA's "worst sites first" philosophy. Respondent shall conduct excavations at the properties in the order of precedence established in the approved schedule.

When Respondent believes, after conducting excavation Work, that it has met the Verification Criteria at a property, it shall immediately notify U.S. EPA in accordance with the procedures established in the approved Work Plan and provide any documentation supporting this belief. After receiving such notice, U.S. EPA/IDNS will conduct Verification Phase sampling, surveying and testing at that property. If U.S. EPA, in consultation with IDNS, determines that the Verification Criteria have not been met, Respondent shall conduct additional excavation Work as necessary to meet the Verification Criteria and again notify U.S. EPA that it believes it has met the Verification Criteria. If U.S. EPA, in consultation with IDNS, determines that the Verification Criteria have been met, U.S. EPA shall so notify Respondent, and Respondent shall commence restoration of the property.

3. Restoration of Properties

After U.S. EPA has notified Respondent that Respondent has met the Verification Criteria at a property based on U.S. EPA/IDNS surveys, samples and tests in the open excavation, Respondent shall begin restoration of the property as promptly as is practicable, but no later than 7 days after the receipt of such

notice. Respondent shall complete restoration of the property as expeditiously as practicable. Respondent shall use clean soils to backfill the areas from which contaminated materials have been excavated, and shall re-establish previous contours. Excavated and/or disturbed areas shall be restored, to the extent practicable, to original conditions or such other conditions as the owner of the property may approve in writing. Sod or grass seed shall be used for areas that were grass-covered prior to excavation and Respondent shall replace any vegetation that has been removed with appropriate nursery stock.

After restoration of a property, Respondent shall use its best efforts to obtain written acceptance of the restoration Work from the property owner, showing that the property owner agrees that Respondent has fulfilled its agreement to restore the property. In the event that Respondent and the property owner cannot reach an agreement that the property has been properly restored, the U.S. EPA Remedial Project Manager/On-Scene Coordinator ("RPM/OSC") shall resolve the dispute. Respondent shall promptly take any actions the U.S. EPA RPM/OSC deems necessary to restore the property.

Respondent shall supply adequate staffing of restoration crews to ensure that Work at each property and at the Site as a whole is conducted without unnecessary delay, as determined by U.S. EPA.

4. Handling, Transportation and Disposal of Excavated Materials

The contaminated materials at this Site have been classified as "11(e)(2) byproduct material" as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2014(e)(2). Immediately after excavation Work at any property, Respondent shall transport all contaminated materials away from the Site to a facility licensed to accept 11(e)(2) byproduct material, in accordance with the procedures in the approved Work Plan.

Respondent shall arrange for the disposal of all contaminated materials removed from affected properties pursuant to this SOW at a permanent disposal facility licensed to accept and permanently dispose of 11(e)(2) byproduct material.

Respondent shall keep track of all materials excavated or removed from the Site by keeping a log of all activities on a property-by-property and project-wide basis. Such information shall include, at a minimum, dates of excavation and volumes of materials excavated from affected properties, dates and volumes of materials handled and transported away from such properties, and dates and volumes of materials transported to the licensed permanent disposal facility or facilities. Such information shall be transmitted to U.S. EPA in electronic format suitable

for incorporation into U.S. EPA's electronic database for this Site.

5. Dust Control Measures and Air Monitoring

During all excavation, restoration, transportation and associated materials-handling Work, Respondent shall implement dust control measures to minimize the occurrence of dust and/or contaminated soil from becoming airborne. Respondent shall conduct monitoring near excavation locations to provide both for worker protection and protection of the general public from contaminated dust and radon/thoron emissions. Respondent shall include in the Work Plan a detailed description of the dust control measures and monitoring that will be conducted during the Excavation and Restoration Phase.

III. SCOPING AND PLANNING DOCUMENTS FOR REMOVAL ACTION

Respondent shall prepare and submit to U.S. EPA for review and approval as provided in Paragraph 32 of the Order the scoping and planning documents described below. The approved documents will become enforceable parts of the Order. The documents shall describe in detail the steps to be taken to implement the design, construction, operation and maintenance of the Excavation and Restoration Phase at the Site. Respondent is responsible for the timely implementation of the Excavation and Restoration Phase Work in accordance with the U.S. EPA-approved plans. The schedule for submittal of the documents is described in Section IV of this SOW.

Task 1: Excavation and Restoration Phase Work Plan

Subtask A: Dust Control Plan

Subtask B: Air Monitoring Plan

**Subtask C: Permitting and Access Requirement
Plan**

Subtask D: Traffic Control Plan

Subtask E: Site Security Plan

**Subtask F: Pre-Verification Screening Sampling
Plan**

**Task 2: Quality Assurance Project Plan and Field Sampling
Plan**

Task 3: Construction Quality Assurance Plan

Task 4: Health and Safety Plan

Task 5: Emergency Contingency Plan

Task 6: Preconstruction Meeting and Routine Progress Meetings

Task 1: Excavation and Restoration Phase Work Plan

Respondent shall submit a Work Plan for U.S. EPA review and approval in accordance with Section VIII of the Order (Work to be Performed), and in accordance with the schedule in Section IV of this SOW. The Work Plan shall document and detail the overall scope and management strategy for performing the design, construction, operation, maintenance and monitoring of the Excavation and Restoration Phase Work. The Work Plan shall document the responsibility and authority of all organizations and key personnel involved with the implementation of the Excavation and Restoration Phase Work and shall include a description of qualifications of key personnel directing the activities, including key contractor personnel and leaders of the excavation/restoration work crews. The Work Plan shall describe in detail the equipment, procedures and materials that may be used during all phases of the Excavation and Restoration Phase Work (including excavation, restoration, materials handling and transportation), including identification of the source and physical characteristics of the soil that will be used as backfill to restore properties. U.S. EPA recognizes that such details as the number of days per week and the hours each day when excavation/restoration Work will be conducted, the number of excavation/restoration crews to be used and the number of people per crew cannot be specified until the extent of excavation/restoration Work to be conducted is known. The Work Plan shall describe the notification procedures to be used to notify U.S. EPA when Respondent believes, after excavation but before backfilling, that it has met the Verification Criteria at properties designated for excavation and restoration Work. In addition, the Work Plan shall describe the data collected and recorded by Respondent in connection with the Excavation and Restoration Phase Work and the procedures for transferring that information to U.S. EPA as that Work progresses. If at all possible, such information shall be transmitted to U.S. EPA in electronic format suitable for incorporation into U.S. EPA's electronic database for this Site. The Work Plan also shall contain a schedule for the Excavation and Restoration Phase Work, although U.S. EPA recognizes that some aspects of the schedule are dependent on the extent of excavation/restoration to be conducted, which for the project as a whole is unknown at this time.

In addition to addressing the above-listed items, the Work Plan shall contain detailed descriptions of the plans for the subtasks listed below:

Subtask A: Dust Control Plan

Respondent shall submit a Dust Control Plan which shall describe in detail, at a minimum, the methods to be employed during all phases of the Excavation and Restoration Phase (including excavation, restoration, transportation and associated materials handling Work) to minimize the occurrence of dust and/or contaminated soil from becoming airborne, and the corrective measures to be implemented in the event that excessive dust and/or contaminated soil becomes airborne. If water is used as a dust control measure, the plan shall describe the procedures that will be used to control or contain runoff.

Subtask B: Air Monitoring Plan

Respondent shall submit an Air Monitoring Plan which shall describe in detail, at a minimum, the methods to be used to conduct air monitoring around the excavation locations. Monitoring near excavation locations shall be conducted as necessary to ensure that excessive airborne contaminated dust and radon/thoron is not being released. Monitoring shall be conducted both within restricted excavation areas (for worker protection) and at the perimeter of and/or outside restricted areas (for protection of the general public).

Subtask C: Permitting and Access Requirement Plan

Respondent shall submit a plan which shall outline and include, at a minimum, a comprehensive list of all permits required in conjunction with the Excavation and Restoration Phase Work, procedures and estimated time frames for acquiring required permits, procedures and methods to be implemented to ensure compliance with permitting requirements, and procedures and methods to be implemented to obtain access and to follow up when access is not obtained. The plan also shall describe the procedures to be used to ensure that buried underground utilities are not damaged during removal activities, and corrective measures to be taken in the event that such damage occurs.

Subtask D: Traffic Control Plan

Respondent shall submit a plan which shall describe the procedures to be used to control traffic in the event that

excavation/restoration Work must be conducted on or near roadways or sidewalks.

Subtask E: Site Security Plan

Respondent shall submit a plan which shall describe in detail the procedures that shall be used to prevent access from the general public to areas where excavation/restoration Work is being conducted, including those times when an excavation is left open during periods of no on-Site activity.

Subtask F: Pre-Verification Screening Sampling Plan

Respondent shall submit a plan which shall describe in detail the field methods, sampling procedures and analytical methods that Respondent will use during excavation activities, prior to the verification activities that will be conducted by U.S. EPA/IDNS, to determine when Respondent believes it has met the Verification Criteria at a property. The plan shall contain sufficient information to ensure that, if Respondent follows such methods and procedures, U.S. EPA/IDNS verification activities will indeed confirm that the Verification Criteria have been met. (Note that this plan is not a Quality Assurance Project Plan.) Respondent shall use adequate field and laboratory instruments, in up-to-date calibration and good working order, to perform the pre-verification screening sampling.

Task 2: Quality Assurance Project Plan and Field Sampling Plan

Respondent shall develop a Quality Assurance Project Plan (QAPP) and a Field Sampling Plan (FSP) for the following limited aspects of the Work:

- 1) Air monitoring activities; and
- 2) Sampling of backfill material to ensure that the material used to restore excavated properties is clean, meaning that the radiological and chemical composition of the backfill material must be within background ranges for the Site as established by U.S. EPA during the first phase of the discovery/characterization fieldwork.

The FSP shall supplement the QAPP and shall address all sample collection activities associated with the above-listed aspects of the Work.

Respondent shall attend a pre-QAPP meeting with U.S. EPA prior to preparation of the QAPP. The QAPP shall address all sample analysis and data handling for the above-listed aspects of the work, and shall be prepared in accordance with the U.S. EPA Region 5 model QAPP. The QAPP shall at a minimum include:

Project Description

- * Facility Location History
- * Past Data Collection Activity
- * Project Scope
- * Sample Network Design
- * Parameters to be Tested and Frequency
- * Project Schedule

Project Organization and Responsibility

Quality Assurance Objectives for Measurement Data

- * Level of Quality Control Effort
- * Accuracy, Precision and Sensitivity of Analysis
- * Completeness, Representativeness and Comparability

Sampling Procedures

Sample Custody

- * Field Specific Custody Procedures
- * Laboratory Chain of Custody Procedures

Calibration Procedures and Frequency

- * Field Instruments/Equipment
- * Laboratory Instruments

Analytical Procedures

- * Non-Contract Laboratory Program Analytical Methods
- * Field Screening and Analytical Protocol
- * Laboratory Procedures

Internal Quality Control Checks

- * Field Measurements
- * Laboratory Analysis

Data Reduction, Validation and Reporting

- * Data Reduction
- * Data Validation
- * Data Reporting

Performance and System Audits

- * Internal Audits of Field Activity

- * Internal Laboratory Audit
- * External Field Audit
- * External Laboratory Audit

Preventive Maintenance

- * Routine Preventive Maintenance Procedures and Schedules
- * Field Instruments/Equipment
- * Laboratory Instruments

Specific Routine Procedures to Assess Data Precision, Accuracy and Completeness

- * Field Measurement Data
- * Laboratory Data

Corrective Action

- * Sample Collection/Field Measurement
- * Laboratory Analysis

Quality Assurance Reports to Management

Task 3: Construction Quality Assurance Plan

Respondent shall submit a Construction Quality Assurance (CQA) Plan which describes the Site-specific components of the quality assurance program that Respondent will use to ensure that the physical characteristics of the soil being used as backfill material are appropriate for the intended use of the area (e.g., can support structures) and that backfilled areas will maintain their contours over the long term (i.e., backfilled areas will not settle).

The CQA Plan shall describe the qualifications of the CQA officer and supporting inspection personnel to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities. The CQA Plan also shall describe the proposed quality assurance sampling activities that will be used to monitor the construction, including the scope and frequency of each type of sampling activity, acceptance and rejection data sheets, and all associated documentation. Reporting requirements for CQA activities shall be described in detail in the CQA Plan, as well as provisions for the final storage of all records and documentation.

Task 4: Health and Safety Plan

Respondent shall develop a Health and Safety Plan which is designed to protect on-Site personnel and area residents from physical, chemical, radiological and all other hazards

posed by excavation and restoration Work. Respondent shall designate a Health Physicist as a Health and Safety officer to ensure that all Work associated with such excavation and restoration is conducted in a manner protective to the workers and local residents. The Health and Safety officer shall be responsible for ensuring that the Health and Safety Plan is followed by all employees and contractors of Respondent. The Health and Safety Plan shall develop the performance levels and specifications necessary to address the following areas:

- Site Description
- Personnel
- Levels of Protection
- Safe work practices and safeguards
- Concepts and methodologies to be followed by workers to keep radiation doses "As Low As Reasonably Achievable" (ALARA)
- Procedures for weather-related problems (such as hypothermia, heat stress and heat exhaustion)
- Special training required for work crews and on-site personnel
- Medical surveillance
- Personal and environmental air monitoring
- Personal protective equipment
- Personal hygiene
- Decontamination - personal and equipment
- Site work zones and access control
- Contaminant control
- Procedures for conducting equipment release surveys and specification of release criteria
- Contingency and emergency planning
- Logs, reports and record keeping

The Health and Safety Plan shall follow U.S. EPA guidance and all OSHA requirements as outlined in 29 CFR 1910 and 1926.

Task 5: Emergency Contingency Plan

Respondent shall submit an Emergency Contingency Plan describing procedures to be used in the event of an accident or emergency at the Site. The Emergency Contingency Plan shall contain, at a minimum, the following:

1. Name of the person or entity responsible for responding in the event of an emergency incident.
2. Plan for meeting(s) with the local community, including local, State and Federal agencies involved in the

cleanup, as well as local police, fire, utility and emergency personnel and hospitals.

3. First aid medical information.
4. Air Monitoring Plan
5. Spill Prevention, Control, and Countermeasures (SPCC) Plan, as specified in 40 CFR Part 109, describing measures to prevent and contingency plans for potential spills and discharges from materials handling and transportation.

Task 6: Preconstruction Meeting and Routine Progress Meetings

A. PRECONSTRUCTION MEETING

Before excavation Work pursuant to this SOW may commence, Respondent shall participate with the U.S. EPA and IDNS in a preconstruction meeting to:

- 1) Review methods for documenting and reporting data collected during the removal action;
- 2) Review lines of communication and methods to be used by Respondent to keep U.S. EPA and IDNS apprised of status of Work and notify U.S. EPA when Respondent believes it has met the Verification Criteria at a property;
- 3) Review methods for distributing and storing documents and reports;
- 4) Review work area security, safety protocol and the Health and Safety and Emergency Contingency Plans;
- 5) Discuss any appropriate modifications to the Quality Assurance Project Plan and/or Construction Quality Assurance Plan to ensure that Site-specific considerations are addressed;
- 6) Review excavation methods, dust control measures, air monitoring methods, materials handling and transportation methods, equipment storage locations, and any other procedures relevant to implementation of the removal action;
- 7) Review instrument calibration methods, calibration frequencies, cross-checks at regular intervals and with U.S. EPA/IDNS instrumentation, and air monitor flow

checks to assure data quality and confirm agreement between instruments; and

8) Revise schedules and sequence of activities as necessary.

B. ROUTINE PROGRESS MEETINGS

After excavation/restoration Work begins, Respondent shall participate in routine progress meetings with U.S. EPA and IDNS on a monthly basis or more frequently as determined by U.S. EPA. All of the items listed under item A above shall be reviewed and updated if necessary. Problems encountered or anticipated and solutions implemented or planned shall be discussed.

IV. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE

A summary of the project schedule and reporting requirements contained in this SOW is presented below.

<u>Submission/Event</u>	<u>Due Date</u>
1. Excavation and Restoration Phase Work Plan	Thirty (30) days after effective date of Order
2. QAPP/FSP	Thirty (30) days after effective date of Order
3. CQA Plan	Thirty (30) days after effective date of Order
4. Health and Safety Plan	Thirty (30) days after effective date of Order
5. Emergency Contingency Plan	Thirty (30) days after effective date of Order
6. Submit revised plans (see Section VIII of Order)	Within fourteen (14) days of receipt of U.S. EPA disapproval/comments

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| 7. | Obtain access to properties (see Section XVI of Order) | Contact property owner within fourteen (14) days of notification from U.S. EPA |
| 8. | Preconstruction Meeting | Prior to any excavation work |
| 9. | Begin excavation activities (see Section II.2. of this SOW) | Within twenty-one (21) days after U.S. EPA approval of Work Plan |
| 10. | Transport excavated materials away from properties | Immediately after excavation |
| 11. | Begin restoration activities at individual properties | Within seven (7) days of receipt of U.S. EPA notification that Verification Criteria met |
| 12. | Complete restoration activities at individual properties | As expeditiously as practicable |
| 13. | Monthly Written Progress Reports (see Section XI of Order) | Within fifteen (15) days of end of preceding month |
| 14. | Routine Progress Meetings | Monthly after preconstruction meeting, or more frequently as determined by U.S. EPA |
| 15. | Complete excavation/restoration Work at the site | Without unnecessary delay |
| 16. | Submit Final Report (see Section VIII of Order) | Sixty (60) days after completion of all on-Site Work |